

Appl. No. 10/528,672

Amdt. Dated May 3, 2006

Response to Office Action mailed February 6, 2006

REMARKS:

Applicant appreciates the time and care the examiner has taken in examining the application.

Applicant traverses and requests reconsideration of the rejections of the claims under Section 103(a), and states the following in support of the traversal.

As to the references DE 199 51 848 A1 and Shope et al, U.S. Pat. No. 4,676,557, on which all the rejections are founded, it is respectfully submitted that the invention as claimed is not obvious over the cited references, there being no suggestion or motivation for combining these references, and their combination failing to disclose the claimed features and to yield the advantages of the instant invention.

DE 199 51 848 A1 teaches a delivery system for a mixture of air and water to be delivered to a cutting head of an extraction machine. Water and air are delivered by at least two separate nozzles. The water and air mingle at a distance from their points of emission. The crossing angle of the two axes of the nozzles is submitted to be too acute (approximately 10° to 15° as shown in Fig. 2 of DE 199 51 848 A1) to be within the specifically claimed range of 45° to 135°. Practical experience of those skilled in the art has shown that such a delivery system demands relatively large amounts of water in order to provide sufficient cooling and dust confinement to the working area.

In contrast to the device of DE 199 51 848 A1, the invention claimed herein provides considerable improvements to the shearing forces occurring between the two crossed flows of fluids and hence the dispersivity of the produced aerosol on the one hand and, on the other hand,

significant reduction of the water consumption. The improvement in increased shearing forces is evoked by the chosen crossing angle of the flows of fluids of between 45° and 135°.

The combination of DE 199 51 848 A1 with U.S. Pat. No. 4,676,557 does not render the invention obvious and does not lead to the instant invention, because the nozzles as taught in U.S. Pat. No. 4,676,557 are different from the nozzles according to the instant invention.

First of all, the two ducts for air and water meet at their ends. Consequently there is no clear distance between the nozzles and the point of generation of the aerosol. This is however a main requirement for a cooling system to be employed in the field of the instant invention.

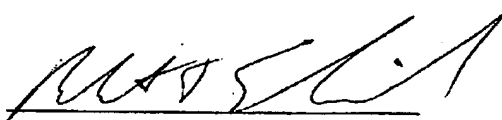
Second of all, the water in the water duct is not pressurized to such an extent as to be virtually shot towards the working area. This follows from the disclosure of U.S. Pat. No. 4,676,557, at column 7, lines 28-31 and column 5, lines 13-16. A hydraulic jet resulting only from hydrostatic forces as attainable in the construction of the device according to U.S. Pat. No. 4,676,557 will not hold the kinetic energy to project over a longer distance.

It is therefore submitted that the rejections under Section 103(a) should be withdrawn, and that the invention is presented in clear and concise patentable terms and the application is in condition for allowance. Prompt, favorable treatment of the application is respectfully requested.

Extension Request and Fee Authorization. The Commissioner is hereby authorized to charge any required fees or to credit any overpayment associated with this communication to the Deposit Account No. 50-0305 of Chapman and Cutler LLP, including fees for any necessary extension of time under 37 CFR §1.136 for filing this communication, such extension being hereby requested.

The Examiner is encouraged to call Robert J. Schneider at the direct number (312) 845-3919 with any questions that arise in connection with this application, or to resolve any remaining issues.

Respectfully submitted,



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Dated: May 3, 2006
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CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

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I hereby certify that the attached correspondence, namely: Response to Office Action, was transmitted by facsimile on the date listed above, to the U.S. Patent Office at the facsimile number listed above, under 37 C.F.R. § 1.8.

Signature: 

Typed Name of Person Signing this Certificate: Robert J. Schneider, Reg. No. 27,383

Date of Signature: May 3, 2006